

Abstract

An apparatus inflicts brain damage of secondary nature, including neuronal and cerebral vascular damage, in a controlled and reproducible manner in animals for experimentation. The apparatus includes a barrel or delivery
5 channel through which a weight is dropped under gravitational force. The weight is dropped from a controlled height to thereby control the force with which the weight impacts the animal's exposed brain site and thereby controls the degree of brain damage inflicted. Effects of drugs on the post-impact brain damages can be evaluated by magnetic resonance imaging (MRI) and/or MRI-based blood flow in
10 a time-related manner. The experimental model injures memory-related brain regions to induce memory loss, and evaluation of memory-related effects of drugs can also be performed using an innovative maze.